




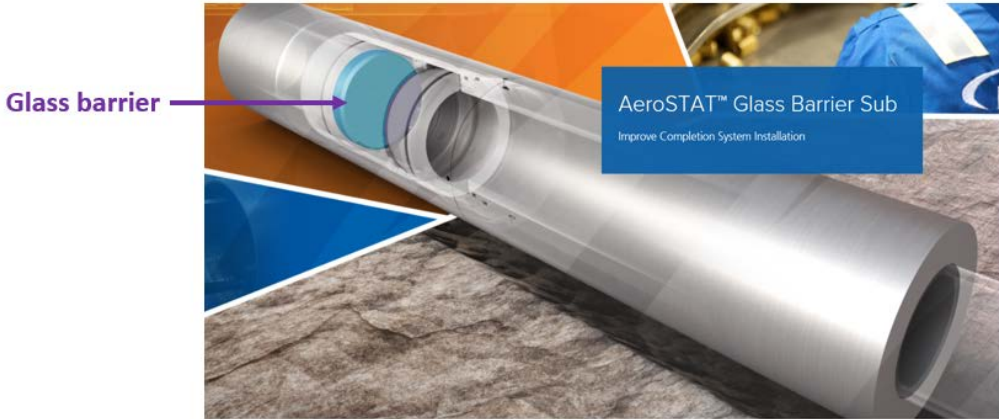
# **Exhibit B**

**NCS's U.S. Patent No. 10,465,445 ("the '445 Patent") and the Packers Plus AeroSTAT™ Glass Barrier Sub**


<b><u>Asserted Claims of US Patent No. 10,465,445</u></b>	<b><u>AeroSTAT™ Glass Barrier Sub<sup>1</sup></u></b>
<p>1.0 A float tool configured for use in a casing string for a wellbore containing a well fluid, the casing string having an internal diameter that defines a fluid passageway between an upper portion of the casing string and a lower portion of the casing string, the float tool comprising:</p>	<p>NCS contends the preamble of claim 1 is not limiting. If it is found to be limiting, the preamble is met by the AeroSTAT™ Glass Barrier Sub as follows:</p> <p>Packers Plus markets the following AeroSTAT™ Glass Barrier Sub for use in a casing string placed in a wellbore:</p>  <p>The image shows a cross-section of the AeroSTAT™ Glass Barrier Sub, a cylindrical device with a blue internal component. A blue text box overlaid on the image reads: "AeroSTAT™ Glass Barrier Sub" and "Improve Completion System Installation".</p>

<sup>1</sup> All references to the AeroSTAT Glass Barrier Sub are found at <https://packersplus.com/solution/aerostat-glass-barrier-sub/>; <https://packersplus.com/performance/float-installations-lower-costs-in-extended-reach-laterals/>.

		<p>The AeroSTAT Glass Barrier Sub is designed to improve operations for completion system installation by facilitating casing flotation to planned depth. A glass disc in the sub acts as a barrier that isolates fluid weight above the sub and creates an air chamber that lightens the completion string in the lateral, enabling the system to float as it is run in hole.</p> <p>The casing string has an internal diameter for passing fluid between an upper portion of the casing (below in <b>green</b>) and lower portion of the casing (below in <b>red</b>):</p> 
1.1	a rupture disc assembly comprising (i) a tubular member having an upper end and a lower end, the upper and lower ends configured for connection in-line with the casing string and	<p><i>See claim element 1.0. The AeroSTAT™ Glass Barrier Sub (i.e. a “rupture disc assembly”) is connected to the casing string. The AeroSTAT™ Glass Barrier Sub has a tubular member that has an upper end (below in <b>blue</b>) and a lower end (below in <b>orange</b>). The upper and lower ends of the The AeroSTAT™ device are connected in-line with the casing:</i></p>

		
1.2	(ii) a rupture disc having a rupture burst pressure and in sealing engagement with a region of the tubular member within the upper and lower ends,	<p>As shown below, the AeroSTAT™ Glass Barrier Sub (i.e. “rupture disc assembly”) includes a glass barrier (i.e., a “rupture disc”) (below in <b>purple</b>). This barrier is in sealing engagement with the inner walls of the AeroSTAT™ Glass Barrier Sub device:</p>  <p>The glass barrier is designed to rupture at a specific pressure:</p>

		<p>The AeroSTAT Glass Barrier Sub is designed to improve operations for completion system installation by facilitating casing flotation to planned depth. A glass disc in the sub acts as a barrier that isolates fluid weight above the sub and creates an air chamber that lights the completion string in the lateral, enabling the system to float as it is run in hole.</p> <p>To alleviate friction during installation, a Glass Barrier Float Sub was designed to prevent the sub from entering the lower tool string so that it would be full of air during installation. The increased buoyancy of the tool string would require less weight for installation, while the vertical section provides extra weight to “float” the system to the desired depth.</p> <p>At the planned depth, when the glass barrier is broken with hydraulic pressure, fluid fills the system and all other installation and stimulation operations proceed as usual.</p>
1.3	wherein the rupture disc is configured to rupture when exposed to a rupturing force greater than the rupture burst pressure	<i>See claim element 1.2.</i>
1.4	and the region of the tubular member where the rupture disc is attached has a larger internal diameter than the internal diameter of the casing string and is parallel to the internal diameter of the casing string.	The AeroSTAT™ Glass Barrier Sub (i.e. “rupture disc”) ( <i>see</i> element 1.2) is positioned in a region of the AeroSTAT™ Glass Barrier Sub that has a larger internal diameter (below in <b>gold</b> ) than the internal diameter of the casing string (below in <b>pink</b> ), and is parallel to the internal diameter of the casing string:

		
8.	The float tool recited in claim 1 wherein the rupture disc forms an upper seal of a sealed chamber.	<p>As shown below, the AeroSTAT™ Glass Barrier Sub is positioned on the casing string as an upper seal.</p> <p>To alleviate friction during installation, a Glass Barrier Float Sub was designed to prevent fluid from entering the lower tool string so that it would be full of air during installation. The increased buoyancy of the tool string would require less weight for installation, while fluid in the vertical section provides extra weight to “float” the system to the desired depth.</p> <p>At the planned depth, when the glass barrier is broken with hydraulic pressure, fluid fills the system and all other installation and stimulation operations proceed as usual.</p> <p>The AeroSTAT™ Glass Barrier Sub is run in combination with a lower seal, which is a seal that is placed at the lower end of the casing string to create the sealed air chamber between the AeroSTAT™ Glass Barrier Sub and the lower seal. Thus, the AeroSTAT™ Glass Barrier Sub forms an upper seal of a sealed chamber, while a lower seal forms a lower seal of the sealed chamber.</p>
14.	The float tool recited in claim 8 further comprising a lower seal on the sealed chamber.	See claim 8.

